

DiskOnChip H1

Delivering high densities
at low costs



Flash memory has long since proven itself as a key element in mobile consumer electronics devices, with most manufacturers interested in two facts - storage density and price.

DiskOnChip H1 takes on-board memory to new levels that meet the memory-hungry demands of today's portable devices. This flash solution implements single-level cell (SLC) and multi-level cell (MLC) NAND flash technology to boost performance and reliability, made possible by M-Systems' x2 technology.



DiskOnChip H1 offers a no-compromise storage solution – delivering major technology highlights in a single small package.

UNPRECEDENTED DATA INTEGRITY

M-Systems' proprietary TrueFFS® and x2 technology represent a proven combination of patented, high-performance flash management algorithms and robust on-the-fly error detection.

SMOOTH INTEGRATION

A standard NOR-like interface means DiskOnChip H1 integration is smooth and easy – no matter which operating system is in place.

EASY BOOT

Unique eXecute In Place (XIP) functionality goes to work during system initialization, enabling the flash to boot from NAND, without the need for a separate boot device.

SMALLER SIZE, HIGHER DENSITY

MLC NAND flash means DiskOnChip H1 stores twice the amount of data per cell compared to standard SLC NAND technology, while maintaining high data reliability.

LOW POWER CONSUMPTION

Using its unique Deep Power-Down mode, DiskOnChip H1 extends battery life, thereby providing an essential advantage for portable devices.

POWER FAILURE IMMUNITY

DiskOnChip H1 can optionally include SureFS™, a unique file system immune to power failure. This feature is tailored for portable devices and especially suited for today's mobile multimedia requirements.

Performance

- 64 nsec access time
- 8.0MB/sec sustained read
- 3.8MB/sec sustained write

Density

- 256MB, 512MB, 1GB, 2GB

Security

- 16-Byte Unique Identification (UID) number
- 6 KByte user-controlled One Time Programmable (OTP) area
- Configurable hardware-protected partition

OS Support

- Microsoft Windows CE, Linux, VxWorks, Integrity, QNX, Palm OS, Nucleus and other leading operating systems

Reliability

- TrueFFS flash management
- SureFS file system, immune to power failure (optional)

Form Factor

- 115-ball FBGA
- 12x18x1.4 mm package


Interface Support

- NOR-like (SRAM compatible)
- Multiplexed address/data interface

Electrical

- I/O: 1.8/3.3V
- Core voltage: 3.3V
- Deep Power-Down mode: 25 µA

Environmental

- Extended operating temperature: -30°C to +85°C
- RoHS compatibility 

Ordering Information

X = Extended operating temperature: -30°C to +85°C

P = RoHS compatibility

256MB: MD2433-d2G-V3Q18-X-P

512MB: MD2433-d4G-V3Q18-X-P

1GB: MD2433-d8G-V3Q18-X-P

2GB: MD2433-d16G-V3Q18-X-P

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